

SEQUENCE LISTING

<110> Gilbertson, Debra G.

<120> METHOD OF TREATING FIBROSIS

<130> 00-53

<160> 18

<170> FastSEQ for Windows Version 3.0

<210> 1

<211> 1760

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (154)...(1191)

<400> 1

```
attatgtgga aactaccctg cgattctctg ctgccagagc aggctcggcg cttccacccc      60
agtcagcct tcccctggcg gtggtgaaag agactcggga gtcgctgctt ccaaagtgcc      120
cgccgtgagt gagctctcac cccagtcagc caa atg agc ctc ttc ggg ctt ctc      174
```

Met Ser Leu Phe Gly Leu Leu

1

5

```
ctg ctg aca tct gcc ctg gcc ggc cag aga cag ggg act cag gcg gaa      222
Leu Leu Thr Ser Ala Leu Ala Gly Gln Arg Gln Gly Thr Gln Ala Glu
```

10

15

20

```
tcc aac ctg agt agt aaa ttc cag ttt tcc agc aac aag gaa cag aac      270
Ser Asn Leu Ser Ser Lys Phe Gln Phe Ser Ser Asn Lys Glu Gln Asn
```

25

30

35

```
gga gta caa gat cct cag cat gag aga att att act gtg tct act aat      318
Gly Val Gln Asp Pro Gln His Glu Arg Ile Ile Thr Val Ser Thr Asn
```

40

45

50

55

```
gga agt att cac agc cca agg ttt cct cat act tat cca aga aat acg      366
Gly Ser Ile His Ser Pro Arg Phe Pro His Thr Tyr Pro Arg Asn Thr
```

60

65

70

09695121.102300

tac agc tgc aca cct cgt aac ttc tca gtg tcc ata agg gaa gaa cta 942
 Tyr Ser Cys Thr Pro Arg Asn Phe Ser Val Ser Ile Arg Glu Glu Leu
 250 255 260

aag aga acc gat acc att ttc tgg cca ggt tgt ctc ctg gtt aaa cgc 990
 Lys Arg Thr Asp Thr Ile Phe Trp Pro Gly Cys Leu Leu Val Lys Arg
 265 270 275

tgt ggt ggg aac tgt gcc tgt tgt ctc cac aat tgc aat gaa tgt caa 1038
 Cys Gly Gly Asn Cys Ala Cys Cys Leu His Asn Cys Asn Glu Cys Gln
 280 285 290 295

tgt gtc cca agc aaa gtt act aaa aaa tac cac gag gtc ctt cag ttg 1086
 Cys Val Pro Ser Lys Val Thr Lys Lys Tyr His Glu Val Leu Gln Leu
 300 305 310

aga cca aag acc ggt gtc agg gga ttg cac aaa tca ctc acc gac gtg 1134
 Arg Pro Lys Thr Gly Val Arg Gly Leu His Lys Ser Leu Thr Asp Val
 315 320 325

gcc ctg gag cac cat gag gag tgt gac tgt gtg tgc aga ggg agc aca 1182
 Ala Leu Glu His His Glu Glu Cys Asp Cys Val Cys Arg Gly Ser Thr
 330 335 340

gga gga tag ccgcatacc accagcagct cttgccacaga gctgtgcagt 1231
 Gly Gly *
 345

gcagtggctg attctattag agaacgtatg cgttatctcc atccttaatc tcagttgttt 1291
 gcttcaagga cctttcatct tcaggattta cagtgcattc tgaaagagga gacatcaaac 1351
 agaattagga gttgtgcaac agctcttttg agaggaggcc taaaggacag gagaaaaggt 1411
 cttcaatcgt ggaaagaaaa ttaaattgtt tattaaatag atcaccagct agtttcagag 1471
 ttaccatgta cgtattccac tagctgggtt ctgtatttca gttctttcga tacggcttag 1531
 ggtaatgtca gtacaggaaa aaaactgtgc aagtgagcac ctgattccgt tgccttgctt 1591
 aactctaaag ctccatgtcc tgggcctaaa atcgtataaa atctggattt tttttttttt 1651
 tttttgctca tattcacata tgtaaacag aacattctat gtactacaaa cctgggtttt 1711
 aaaaaggaac tatgttgcta tgaattaaac ttgtgtcgtg ctgatagga 1760

<210> 2

<211> 345

<212> PRT

<213> Homo sapiens

<400> 2

00595121.102300

Met 1	Ser	Leu	Phe	Gly 5	Leu	Leu	Leu	Leu	Thr 10	Ser	Ala	Leu	Ala	Gly 15	Gln
Arg	Gln	Gly	Thr 20	Gln	Ala	Glu	Ser	Asn 25	Leu	Ser	Ser	Lys	Phe 30	Gln	Phe
Ser	Ser	Asn 35	Lys	Glu	Gln	Asn	Gly 40	Val	Gln	Asp	Pro	Gln 45	His	Glu	Arg
Ile 50	Ile	Thr	Val	Ser	Thr	Asn 55	Gly	Ser	Ile	His 60	Ser	Pro	Arg	Phe	Pro
His 65	Thr	Tyr	Pro	Arg	Asn 70	Thr	Val	Leu	Val 75	Trp	Arg	Leu	Val	Ala 80	Val
Glu	Glu	Asn	Val 85	Trp	Ile	Gln	Leu	Thr 90	Phe	Asp	Glu	Arg	Phe 95	Gly	Leu
Glu	Asp	Pro 100	Glu	Asp	Asp	Ile	Cys	Lys 105	Tyr	Asp	Phe	Val	Glu 110	Val	Glu
Glu	Pro	Ser 115	Asp	Gly	Thr	Ile	Leu	Gly 120	Arg	Trp	Cys	Gly 125	Ser	Gly	Thr
Val 130	Pro	Gly	Lys	Gln	Ile 135	Ser	Lys	Gly	Asn 140	Gln	Ile	Arg	Ile	Arg	Phe
Val 145	Ser	Asp	Glu	Tyr	Phe 150	Pro	Ser	Glu	Pro 155	Gly	Phe	Cys	Ile	His	Tyr
Asn	Ile	Val 165	Met	Pro	Gln	Phe	Thr	Glu	Ala 170	Val	Ser	Pro	Ser	Val	Leu
Pro	Pro	Ser 180	Ala	Leu	Pro	Leu	Asp 185	Leu	Leu	Asn 190	Asn	Ala	Ile	Thr	Ala
Phe	Ser	Thr 195	Leu	Glu	Asp	Leu	Ile 200	Arg	Tyr	Leu	Glu 205	Pro	Glu	Arg	Trp
Gln 210	Leu	Asp	Leu	Glu	Asp 215	Leu	Tyr	Arg	Pro	Thr 220	Trp	Gln	Leu	Leu	Gly
Lys 225	Ala	Phe	Val	Phe	Gly 230	Arg	Lys	Ser	Arg	Val 235	Val	Asp	Leu	Asn	Leu
Leu	Thr	Glu	Glu 245	Val	Arg	Leu	Tyr	Ser 250	Cys	Thr	Pro	Arg	Asn	Phe	Ser
Val	Ser	Ile 260	Arg	Glu	Glu	Leu	Lys 265	Arg	Thr	Asp	Thr 270	Ile	Phe	Trp	Pro
Gly	Cys	Leu 275	Leu	Val	Lys	Arg	Cys 280	Gly	Gly	Asn	Cys 285	Ala	Cys	Cys	Leu
His 290	Asn	Cys	Asn	Glu	Cys	Gln 295	Cys	Val	Pro	Ser 300	Lys	Val	Thr	Lys	Lys
Tyr 305	His	Glu	Val	Leu	Gln 310	Leu	Arg	Pro	Lys 315	Thr	Gly	Val	Arg	Gly	Leu
His	Lys	Ser	Leu 325	Thr	Asp	Val	Ala	Leu 330	Glu	His	His	Glu	Glu	Cys	Asp
Cys	Val	Cys 340	Arg	Gly	Ser	Thr	Gly 345	Gly							

agc atc cac agc ccg aag ttt cct cat aca tac cca aga aat atg gtg	1264
Ser Ile His Ser Pro Lys Phe Pro His Thr Tyr Pro Arg Asn Met Val	
60 65 70	
ctg gtg tgg aga tta gtt gca gta gat gaa aat gtg cgg atc cag ctg	1312
Leu Val Trp Arg Leu Val Ala Val Asp Glu Asn Val Arg Ile Gln Leu	
75 80 85	
aca ttt gat gag aga ttt ggg ctg gaa gat cca gaa gac gat ata tgc	1360
Thr Phe Asp Glu Arg Phe Gly Leu Glu Asp Pro Glu Asp Asp Ile Cys	
90 95 100	
aag tat gat ttt gta gaa gtt gag gag ccc agt gat gga agt gtt tta	1408
Lys Tyr Asp Phe Val Glu Val Glu Glu Pro Ser Asp Gly Ser Val Leu	
105 110 115 120	
gga cgc tgg tgt ggt tct ggg act gtg cca gga aag cag act tct aaa	1456
Gly Arg Trp Cys Gly Ser Gly Thr Val Pro Gly Lys Gln Thr Ser Lys	
125 130 135	
gga aat cat atc agg ata aga ttt gta tct gat gag tat ttt cca tct	1504
Gly Asn His Ile Arg Ile Arg Phe Val Ser Asp Glu Tyr Phe Pro Ser	
140 145 150	
gaa ccc gga ttc tgc atc cac tac agt att atc atg cca caa gtc aca	1552
Glu Pro Gly Phe Cys Ile His Tyr Ser Ile Ile Met Pro Gln Val Thr	
155 160 165	
gaa acc acg agt cct tcg gtg ttg ccc cct tca tct ttg tca ttg gac	1600
Glu Thr Thr Ser Pro Ser Val Leu Pro Pro Ser Ser Leu Ser Leu Asp	
170 175 180	
ctg ctc aac aat gct gtg act gcc ttc agt acc ttg gaa gag ctg att	1648
Leu Leu Asn Asn Ala Val Thr Ala Phe Ser Thr Leu Glu Glu Leu Ile	
185 190 195 200	
cgg tac cta gag cca gat cga tgg cag gtg gac ttg gac agc ctc tac	1696
Arg Tyr Leu Glu Pro Asp Arg Trp Gln Val Asp Leu Asp Ser Leu Tyr	
205 210 215	
aag cca aca tgg cag ctt ttg ggc aag gct ttc ctg tat ggg aaa aaa	1744
Lys Pro Thr Trp Gln Leu Leu Gly Lys Ala Phe Leu Tyr Gly Lys Lys	
220 225 230	

09695121 102300

acaagcaacc	ttcatcccca	ccagcgttgg	ccgcagggct	ctcagctgct	gatgctggct	2196
atggtaaaga	tcttactcgt	ctccaaccaa	attctcagtt	gtttgcttca	atagccttcc	2256
cctgcaggac	ttcaagtgtc	ttctaaaaga	ccagaggcac	caagaggagt	caatcacaaa	2316
gcactgcctt	ctagaggaag	cccagacaat	ggctttctga	ccacagaaac	aatgaaatg	2376
aatgtagatc	gctagcaaac	tctggagtga	cagcatttct	tttccactga	cagaatgggtg	2436
tagcttagtt	gtcttgatat	gggcaagtga	tgtcagcaca	agaaaatggg	gaaaaacaca	2496
cacttgattg	tgaacaatgc	agaaatactt	ggatttctcc	aacctgtttg	catagataga	2556
cagatgctct	gttttctaca	aactcaaagc	ttttagagag	cagctatggt	aataggaatt	2616
aatgtgccca	tgctgaaagg	aaagactgaa	gttttcaatg	cttggcaact	tctccgcaat	2676
ttggaggaaa	ggtgcggtca	tggtttggag	aaagcacacc	tgcacagagg	agtggccttc	2736
ccttcccttc	cctctgaggt	ggcttctgtg	tttcattgtg	tatatTTTTA	tattctcctt	2796
ttgacattat	aactgttggc	ttttctaata	ttgttaaata	tttctatTTT	taccaaaggt	2856

```

atttaatat cttttttatg acaacctaga gcaattat ttagcttgat aattttttt 2916
tctaaacaaa attgttatag ccagaagaac aaagatgatt gatataaaaa tcttggtgct 2976
ctgacaaaaa catatgtatt tcttccttgt atggtgctag agcttagcgt catctgcatt 3036
tgaaaagatg gaatggggaa gtttttagaa ttggtaggct gcagggacag tttgataaca 3096
actgtactat catcaattcc caattctgtt cttagagcta cgaacagaac agagcttgag 3156
taaatatgga gccattgcta acctaccctt ttctatggga aataggagta tagctcagag 3216
aagcacgtcc ccagaaacct cgaccatttc taggcacagt gttctgggct atgctgcgct 3276
gtatggacat atcctattta tttcaatact agggttttat tacctttaaa ctctgctcca 3336
tacacttgta ttaatacatg gatattttta tgtacagaag tatatcattt aaggagttca 3396
cttattatac tctttggcaa ttgcaaagaa aatcaacata atacattgct tgtaaattgct 3456
taatctgtgc ccaagttttg tggtgactat ttgaattaaa atgtattgaa tcatcaaata 3516
aaataatctg gctattttgg ggaaaaaaaa aaaaaaaaaa aaaaagggcg gccgc 3571

```

<210> 4

<211> 345

<212> PRT

<213> Mus musculus

<400> 4

```

Met Leu Leu Leu Gly Leu Leu Leu Leu Thr Ser Ala Leu Ala Gly Gln
 1          5          10          15
Arg Thr Gly Thr Arg Ala Glu Ser Asn Leu Ser Ser Lys Leu Gln Leu
 20          25          30
Ser Ser Asp Lys Glu Gln Asn Gly Val Gln Asp Pro Arg His Glu Arg
 35          40          45
Val Val Thr Ile Ser Gly Asn Gly Ser Ile His Ser Pro Lys Phe Pro
 50          55          60
His Thr Tyr Pro Arg Asn Met Val Leu Val Trp Arg Leu Val Ala Val
 65          70          75          80
Asp Glu Asn Val Arg Ile Gln Leu Thr Phe Asp Glu Arg Phe Gly Leu
 85          90          95
Glu Asp Pro Glu Asp Asp Ile Cys Lys Tyr Asp Phe Val Glu Val Glu
100          105          110
Glu Pro Ser Asp Gly Ser Val Leu Gly Arg Trp Cys Gly Ser Gly Thr
115          120          125
Val Pro Gly Lys Gln Thr Ser Lys Gly Asn His Ile Arg Ile Arg Phe
130          135          140
Val Ser Asp Glu Tyr Phe Pro Ser Glu Pro Gly Phe Cys Ile His Tyr
145          150          155          160
Ser Ile Ile Met Pro Gln Val Thr Glu Thr Thr Ser Pro Ser Val Leu
165          170          175
Pro Pro Ser Ser Leu Ser Leu Asp Leu Leu Asn Asn Ala Val Thr Ala
180          185          190

```

09695121.102300

<210> 5
<211> 370
<212> PRT
<213> Homo sapiens

Met	His	Arg	Leu	Ile	Phe	Val	Tyr	Thr	Leu	Ile	Cys	Ala	Asn	Phe	Cys
1				5					10					15	
Ser	Cys	Arg	Asp	Thr	Ser	Ala	Thr	Pro	Gln	Ser	Ala	Ser	Ile	Lys	Ala
			20					25					30		
Leu	Arg	Asn	Ala	Asn	Leu	Arg	Arg	Asp	Glu	Ser	Asn	His	Leu	Thr	Asp
		35					40					45			
Leu	Tyr	Arg	Arg	Asp	Glu	Thr	Ile	Gln	Val	Lys	Gly	Asn	Gly	Tyr	Val
	50					55					60				
Gln	Ser	Pro	Arg	Phe	Pro	Asn	Ser	Tyr	Pro	Arg	Asn	Leu	Leu	Leu	Thr
65					70					75					80
Trp	Arg	Leu	His	Ser	Gln	Glu	Asn	Thr	Arg	Ile	Gln	Leu	Val	Phe	Asp
				85					90					95	
Asn	Gln	Phe	Gly	Leu	Glu	Glu	Ala	Glu	Asn	Asp	Ile	Cys	Arg	Tyr	Asp
			100					105					110		
Phe	Val	Glu	Val	Glu	Asp	Ile	Ser	Glu	Thr	Ser	Thr	Ile	Ile	Arg	Gly
		115					120						125		

Gln Leu Asp His His Glu Arg Cys Asp Cys Ile Cys Ser Ser Arg Pro
355 360 365
Pro Arg
370

```
<210> 6
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide primer

<400> 6
```


25

<220>
<223> oligonucleotide primer

25

```
<400> 12
atgga gcttggtga g

<210> 13
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide primer
```

25

```
<210> 14
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> oligonucleotide primer

<400> 14
```

25

<211> 27

<212> DNA

<213> Artificial Sequence

 $\langle 220 \rangle$

<223> oligonucleotide primer

<400> 15

27

<210> 16

<211> 27

<212> DNA

<213> Artificial Sequence

 $\langle 220 \rangle$

<223> oligonucleotide primer

<400> 16

27

<210> 17

<211> 35

<212> DNA

<213> Artificial Sequence

 $\langle 220 \rangle$

<223> oligonucleotide primer ZC20.180

<400> 17

35

<210> 18

<211> 32

<212> DNA

<213> Artificial Sequence

 $\langle 220 \rangle$

<223> oligonucleotide primer ZC20,181

<400> 18

cgtatcggcg cgccctatcc tcctgtgctc cc

0905121.102300